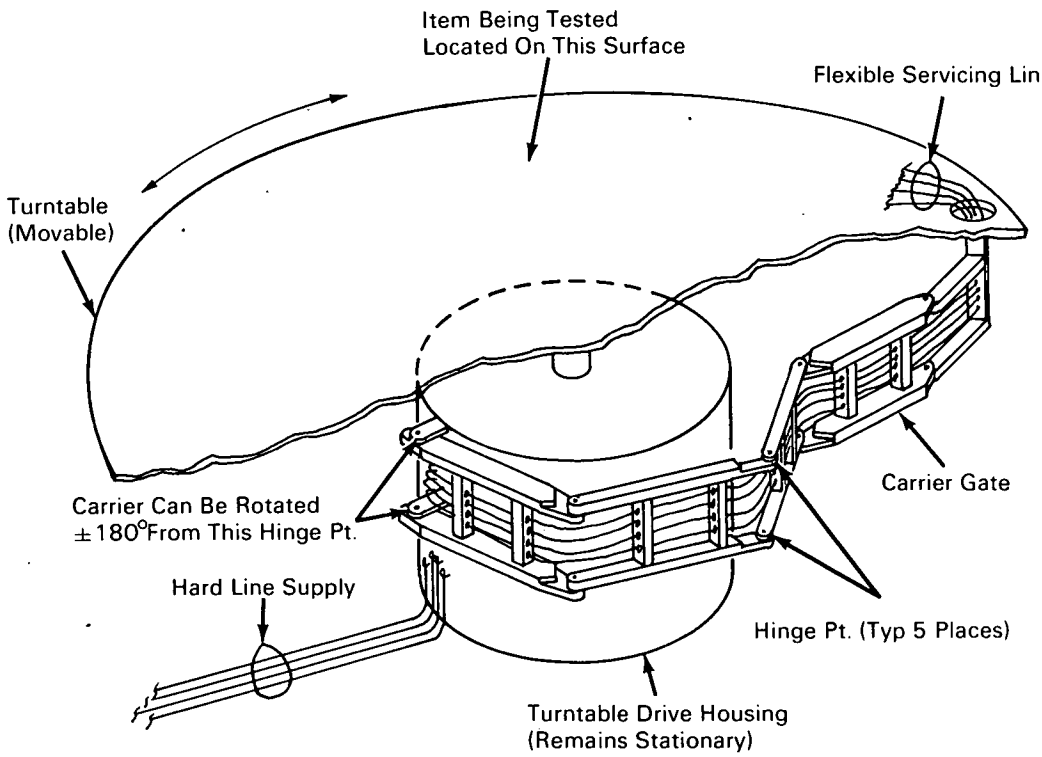
NASA TECH BRIEF

Swing Arm Carrier Protects Flexible Lines During Test Item Rotation



The problem:

To provide protection for flexible lines (fluid, electrical, rf) connected to a test item that must be rotated through 360° during test. The problem is frequently compounded by the location of the test item within a thermal vacuum chamber where the hardware is both inaccessible and subjected to extreme temperatures and pressures.

The solution:

A swing arm carrier that uses five gates riding on pivots to permit rotation of flexible lines through arcs of +180° and −180°. The item under test rides on a turntable to which the flexible lines are routed at one end of the swing arm gate assembly. The flexible lines (hard line supply) enter the system through the turntable drive housing which remains stationary.

Notes:

1. This device keeps line lengths to an absolute minimum and reduces line bends to one common centerline, at the turntable drive housing hinge point.

(continued overleaf)

2. Inquiries concerning this innovation may be directed to:

Technology Utilization Officer
Manned Spacecraft Center
Houston, Texas 77058
Reference: B68-10037

Patent status:

No patent action is contemplated by NASA.

Source: D. P. Ward
of North American Aviation, Inc.
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